



Rhythm

The Newsletter

Indian Institute of Technology Bhubaneswar

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From the Director's Desk... *TO NEW BEGINNINGS...*

A briskness in the air, a spring in the step and a lightness in the mood - come winter and a celebratory mood sets in. It has always been my firm belief that no achievement- academic, personal or material can be fruitful if we have not learnt to experience the joys of life and living. It is this spirit that determines our quality of life. IIT Bhubaneswar has been in the festive spirit since October. With Dussehra and Diwali reaffirming the triumph of good over evil and the numerous little campus festivities that has kindled the feeling of togetherness, IIT Bhubaneswar is all set to welcome the new year with good tidings.

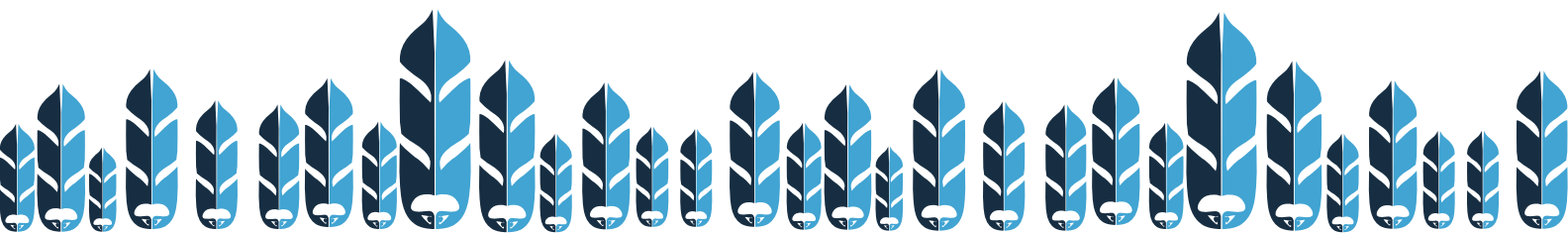
Let's all become a part of this grand celebration called Life!

Happy New Year 2012!

Prof. Madhusudhan Chakraborty

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In Focus

35th National Systems conference 2011

The 35th National Systems Conference (NSC-11) was organized jointly by the School of Electrical Sciences Department of Electrical Engineering, IIT Kharagpur and the Systems Society of India (SSI) during 9 - 11 December 2011. Inaugurating the conference, Prof. Prem Kalra, Director, IIT Jodhpur and the President, SSI called upon professionals to make forays into the green-field segments of research because of their local relevance and global value. He said that the need of the hour is for professionals to evolve into leaders. Out of the more than 200 papers received for NSC-11, 40 papers were chosen for oral presentation. The conference saw participants from across India besides one from Ontario, Canada. The conference had six technical sessions in the areas of System Applications, System Identification & Optimization, Communication Systems, Control Systems, Algorithm for Systems and Power Systems and Modeling. Valuable inputs on Systems were provided to participants during the plenary sessions. The speakers in the plenary sessions included Prof. B. Yegnanarayana (IIIT Hyderabad), Prof. V. Gadre (IIT Bombay), Prof. S. Mukhopadhyay (IIT Kharagpur), Prof. G. Panda (IIT Bhubaneswar), Prof. P. N. Ghosh (Vice-Chancellor, Jadavpur University), Prof. P. K. Dash (SOA University) and Mr. A. Samant (National Instruments). Prof. P. K. Sahu, Head, School of Electrical Sciences of the Institute was the convener of the event.



Career Development Cell: Placements during 2011



In consonance with the changing times and the need of the budding students, the T&P Cell of the Institute has been rechristened as Career Development Cell looked after by a Professor-In-Charge and being ably advised by experts across disciplines including Prof. R. Bhaskaran (Former T&P stalwart of IIT Kharagpur) as Honorary Advisor. Beginning from 1st December 2011, the placement season has seen about 63 out of 89 students securing jobs in core engineering companies related to infrastructure, mechanical, electrical, electronics, and computer sciences. In the new-year, more companies are expected to participate in the placement drive.



Prof. R. Bhaskaran, Honorary Advisor, CDC

Prof. R. Bhaskaran is currently the Director of Indian Institute of Information Technology and Management, Kerala at Trivandrum. He served as Dean, Continuing Education and Principal QIP Coordinator at IIT Kharagpur before moving to his current assignment. Prof. Bhaskaran was Professor and Head of Training & Placement Cell at IIT Kharagpur for over two decades. He looked after the Technology Foundation of IIT Kharagpur as Managing Director during his tenure as Head, T&P and served as Chairman and Member of a number of academic and administrative committees of IIT Kharagpur. Prof. Bhaskaran is a Fellow of the Institution of Engineers India and Life Member of ISTE and ISTD. He has rich experience in Industry-Institutional linkages, recruitment and human resource management.

Interaction with NUS



An interactive session between IIT Bhubaneswar and National University of Singapore (NUS), was organized at IIT Bhubaneswar on 2 December 2011. Prof. B. V. R. Chowdari, Executive Director, NUS-India Research Initiatives who led the session introduced Singapore and the NUS to the participants. Initiatives are underway for IIT, Bhubaneswar to associate with NUS through research collaboration.

Visits by Persons of Eminence

Name & Affiliation	Date	Remarks
Prof. B. S. Murty , <i>FASM, FNAE, FASc, FNASc</i> Department of Metallurgical and Materials Engineering Indian Institute of Technology Madras, Chennai 600 036, India	14 October 2011	Delivered a talk on Excitements and Challenges in Nanoscience and Nanotechnology
Professor Manas K Mandal Director Defence Institute of Psychological Research, New Delhi & President, National Academy of Psychology, India	14 October 2011	Delivered a talk on Cerebral Asymmetry & Technology
Professor Rudra Pratap Professor, Department of Mechanical Engineering, IISc Bangalore	5 December 2011	Addressed the Students of Mechanical Engineering on Future Academic Prospects



Prof. Sujit Banerji,
Executive Director,
Postgraduate
Programs, WMG

Professor Sujit Banerji, Executive Director, Postgraduate Programs, Warwick Manufacturing Group, (WMG) University of Warwick visited the Institute from 23-25 November 2011 to discuss and further the budding partnership with possible student internships, future collaborations through study programmes and projects. Prof. Banerji's visit has paved the way for the signing of a Memorandum of Understanding between the Institute and Warwick Manufacturing Group to foster exchange of faculty and students while extending partnership in the areas of service security, entrepreneurship management, health care, service management and design. The MoU will be signed during Lord Kumar Bhattacharya's visit to the Institute on 12 February 2012 to deliver the First Foundation Day Lecture.

Faculty Forum

New Faculty Members



Dr. Akhilesh Barve joined the School of Mechanical Sciences as Assistant Professor in the Month of December 2011. His research areas include Supply chain management, industrial Engineering, quality control, logistics



Dr. Arun Pradhan joined the School of Mechanical Sciences as Assistant Professor in the Month of December 2011. His research areas include

Composite Materials / Structures, Smart Materials/ Structures, Solid Mechanics, Fracture Mechanics and Delamination studies in Composites etc.



Dr. Hanumantha Rao Bendadi joined the School of Infrastructure in the Month of December 2011. His research areas

include Geotechnical Engineering and Environmental Geomechanics



Dr. Suresh R Dash joined the School of Infrastructure as Assistant Professor in the Month of December 2011. His research areas include

Earthquake engineering, Seismic analysis, design and retrofitting of buildings and bridges, Soil dynamics and geo-mechanics, Pile-soil interaction in liquefiable soils, Seismic analysis and design of buried pipelines.



Dr. Umesh Chandra Sahoo joined the School of Infrastructure as Assistant Professor in the Month of December 2011. His research areas

include Pavement Materials, Analysis, Design, Evaluation and Maintenance; Low Volume Roads.

Awards/Honours:

- Dr. S. Samantray, School of Electrical Sciences received the IEEE PES PSDP Technical Committee Prize Paper Award-2012 for the paper "Development of Rule-based Classifiers for Rapid Stability Assessment of Wide-Area Post-Disturbance Records", IEEE Transactions on Power Systems, Volume: 24 Issue: 1, pp. 258-270, Feb- 2009. The award is selected among the most valuable contributions in IEEE Transactions in Power System Dynamic Performance (PDPS) and will be given in the IEEE PES General Meeting scheduled during July 2012 at San Diego, CA, USA.
- Dr. Sumanta Haldar, School of Civil and Infrastructure received the Excellent Paper Award by the International Association for Computer Methods and Advances in Geomechanics (IACMAG) for his paper "Failure mechanisms of pile foundations in liquefiable soil: A parametric study." published in International Journal of Geomechanics, ASCE.

- Nithin V. George, Research Scholar, School of Electrical Sciences won the 2nd Prize for his paper “On the development of adaptive hybrid active noise control system for effective mitigation of nonlinear noise” at the Research Scholars’ Day of Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram held during 16-17 December 2011.

- The paper entitled “Seismic response of soil-pile foundation structure system incorporating soil structure interaction” by Rajib Saha, Prof. S.C. Dutta and Dr. S. Haldar received a special mention in Dr. A.P.J. Abdul Kalam’s inaugural address at the Research Scholars’ Day of Indian Institute of Space Science and Technology (IIST), Thiruvananthapuram.

SRIC Projects

1. Three international collaborative projects will commence under the UK India Education and Research initiative (UKIERI) funding:

- Joint Masters and split site Ph. D. programme: An Integrated Doctoral and Masters programme with the University of Warwick.

- Thematic Partnership in Low Carbon Materials Technologies, Innovation and Application jointly with the University of Warwick.

- Establishment of a new School of Earth, Ocean and Climate Science at the India Institute of Technology Bhubaneswar and a new marine campus on the Bay of Bengal jointly with the Southampton and National Oceanography Centre and University of Massachusetts at Dartmouth.

2. IITBBS-HAL (Koraput) Alliance: Vetting of Structural Analysis of Design and Drawing for the new residential complex at Hindustan Aeronautics Limited (HAL), Koraput began on 19 October 2011. The project sponsored by HAL, has Prof. S.C. Dutta, School of Infrastructure as its In-Charge.

Workshops Organized:

- A workshop on Automobile and Engine Design was organized by the student chapter Society of Automotive Engineers at the Institute from 5-6 November, 2011.

- A two day workshop on “Teaching English Redefined: Latest Approaches for the English Language Classroom” was organized by the School of Humanities, Social Sciences & Management during 19-20 November 2011. The inaugural address was given by eminent academician Prof. M. Fakruddhin, who enlightened the audience on teaching skills, use of language and the importance of English language in everyday life. The objective of the workshop was to augment the English language teaching skills of teachers teaching Communicative English in technical institutes. Dr. Punyashree Panda, School of Humanities, Social Sciences & Management coordinated the event.

- A workshop on “Electron Microscopy” (WEM2011) was organized by the Institute jointly with the Institute of Physics (IOP), Bhubaneswar from 23-25 November 2011 at the Institute of Physics. The main objective of the WEM2011 was to provide the young researchers from the eastern part of India a platform for interaction with eminent scientists. The event was coordinated by Prof. V. R. Pedireddi, School of Basic Sciences and Dr. Animesh Mandal of School of Mechanical Sciences of the Institute.

- A workshop on “Indian Water Management in 21st Century (IWM)” was organized by the Institute from 27-29 December 2011. The workshop was jointly organized by School of Infrastructure and School of Earth, Ocean and Climate Sciences. Prof. M. Chakraborty, Director, IITBBS inaugurated the workshop and Prof. V.R. Pedireddi, Dean (SRIC) was the Guest of Honor. The workshop hosted experts from various IITs and IISTs and participants from Central Water Commission India, Ground Water Board India, Water Resource Department, Odisha and Minor Irrigation Department, Odisha attended the workshop. The event was coordinated by Dr. R. R. Dash and Dr. A. Sarkar.

- IEEE IIT Bhubaneswar organized 1081p 2.0 and 2.1, a hands-on workshop series on introductory 3D modeling using SolidWorks. The program’s theme was ‘Seeing is Believing?’. Over 100 students took part in the event. The workshop was followed by a design contest aimed at assessing the designing/modeling skills that the students have been able to absorb in the course of the workshop.



Showcase

Environmental Engineering Laboratory

The Environmental Engineering Laboratory of the institute was established under the School of Infrastructure with a vision to mitigate the current and emerging environmental engineering and global issues, and to have an understanding of ethical and societal responsibilities. The major activities include quantification of different types of pollutants and to propose the mitigation measures for respective pollutants. The well-being, prosperity and sustainability of the human enterprise rest on the functioning of Earth’s natural systems and their complex physical, chemical and biological processes. Water quality is a central theme in terrestrial, oceanic, atmospheric, agricultural and industrial systems alike, so there is immense need to maintain the quality of water for proper functioning of the respective ecosystem. The laboratory during the short period of its existence has evolved into a multidisciplinary





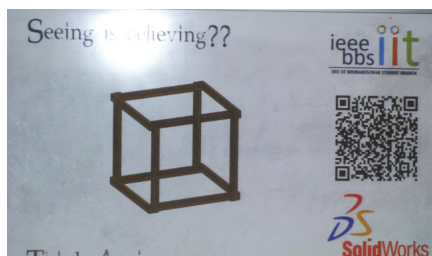
research centre focused primarily on water and wastewater treatment with the latest facilities and equipment for extensive training to the undergraduate, postgraduate students, research scholars and faculty members of the School. In addition, these are also used for numerous research, consultancy and testing works. The laboratory has four major sections viz. laboratory classroom with analysis station, central corridor, reactor room and instrumentation room. These sections are equipped with the advance and state-of-the-art equipment dedicated to water and wastewater testing and treatment, air pollution monitoring along with facilities for collection of samples, chemical, bacteriological and gas analyses. Some of the equipments are Atomic Absorption Spectrophotometer, Gas Chromatograph, Freeze dryer, UV-VIS Spectrophotometer, Centrifuge, Muffle Furnace, Autoclave, Laminar Air Flow Chamber, Environmental Chamber, Millipore Double Distillation Unit, BOD Incubator, Deep Freezer etc. Apart from these, few biological (more specifically, Upflow Anaerobic Sludge Blanket) reactors are also being installed in the reactor room to treat domestic as well as industrial wastewater either alone or in combination with some other physico-chemical or advanced treatment units. All the major instruments are connected with high quality PCs and printers, which help to analyze the results in a better way. Some of the laboratory services, besides the routine ones, include Water and Wastewater Analysis, Ambient Air Monitoring, Soil and Heavy Metal Analyses. The laboratory is kept open 24x7 for the benefit of the users.



Campus Bulletin

IEEE Xtreme 5.0

With the highest number of teams from India and the second highest in the world, IEEE student branch of the Institute made its presence felt in IEEE Xtreme 5.0 - the global online programming competition conducted by IEEE on 23 October 2011. Out of a total of 29 teams taking part in the event, the Institute team stood well ahead of others from top ranking Institutes in India including the other IITs.



Vigilance Awareness Week



As part of a directive from the Central Vigilance Commission, the Institute observed the Vigilance Awareness Week from 31 October to 5 November, 2011. The theme for the week was Participatory Vigilance and the Institute called attention to being alert at individual level. The entire staff, faculty and students of the Institute undertook the Pledge for Participatory Vigilance, promising to "be the change we wish to see." An intra-college debate competition was held on the last day of the week where students deliberated on the Jan Lokpal Bill, the one instrument that has mobilized millions across the nation against corruption. The ambit of the all encompassing version of Lokpal, redundancy of few of its powers with that of already existing institutions, the practically realizable version of such a colossal organization were discussed. Shri Amar Pattnaik, Accountant General (Civil Audit), Odisha was the Chief Guest of

the valedictory ceremony. Shri Pattnaik emphasized that eternal vigilance is the price of liberty, and impressed upon the audience that rooting out of corruption is not a one sweep option or a one man action. He cited examples of the Singaporean Model of Anti Corruption that enabled the city-state to rise to the ranks of the top most corruption free states. India with its extensive constitutional provisions and an intangible legacy of morals could definitely be in the same league if participatory vigilance sunk well into the nation's conscience.



Aghaaz: A prelude to Alma Fiesta

Displaying their skills at organizing and management, the students of the Institute organized Aghaaz - a prelude to Alma Fiesta 2012, the socio-cultural fest (to be held during 13 - 15 January 2012) on 6 November 2011. The promotional events were conducted entirely by the students and involved a number of activities including inter-college fashion show, chilly eating competition and paper dance etc. The fashion show was judged by Professors from National Institute of Fashion technology, Bhubaneswar and winners were rewarded with cash prizes besides being crowned Mr. Aladdin (male) and Miss Jasmine (female). With a multitude of audience transfixed to the unfolding prelude, team Alma Fiesta cheered at its success in giving the Mega-event a grand head start.

SYNC LAYER: The Journey Begins...

Recently formed student musical rock band- Sync Layer, made their debut on 12 November, 2011 at Rabindra Mandap, Bhubaneswar during the event UNPLUGGED, a rock band competition. The band stood 4th in the competition and received a huge positive response from the audience.

Music and Dance Society

The Music and Dance Society staged their maiden production of the season on 25 October 2011 which included enthralling performances by the student members. The evening was vibrant with glamour of elegant performances of the Bharatnatyam and a number of modern musical remixes and dance forms.



Faculty and Staff Get-together

Keeping in tempo with the festive season of Dussehra, a get-together of faculty, staff and their families was organized on 15 October 2011 after the Puja vacations. The occasion infused the spirit of friendship and camaraderie within members of the IIT family to excel in their endeavour to establish this budding Institute. During his interactions, Prof. M. Chakraborty, the Director emphasized on togetherness because these days people are more into virtual social networking and hardly have the time to meet each other face to face. The party ended with a high tea.

Diwali



The festival of lights was celebrated with great fervor throughout the day. In the morning, the Fine Arts Society organized

Rangoli making competition in the campus which saw a full spectrum of colours vividly depicting various social and cultural themes. In addition, there were a series of miscellaneous events like dance and music programs which complemented the celebratory mood. In the evening, the Society, along with other students of the Institute presented an awe-inspiring vertical illumination of Lord Ram. The Dramatics Society also presented a play on the theme 'Say No to Crackers'.

Inter IIT Meet 2011



The 47th Inter-IIT Sports Meet, the biggest stage for sportsmen from IIT, is held annually during December. It is an eight-day extravaganza where students get to keep alive the spirit of Citius, Altius, Fortius. The IIT which performs best in both the Sports Meet and the Aquatics Meet wins the General Championship.

IIT Kharagpur was the host IIT for the 47th INTER IIT Sports Meet. The meet was held from 12 -19 December 2011. IIT Bhubaneswar with the smallest contingent took part in the various events such as badminton, football, table tennis, volleyball, basketball and athletics for boys and badminton for girls. IIT Bhubaneswar started the campaign by winning the girls' badminton match against IIT Rajasthan. Girls' badminton team performed superbly in their group stage matches. They were the first team from IIT Bhubaneswar to qualify for the quarter-final for the first time in three years. Next it was the turn of boy's badminton team who also qualified for the quarter final. In Table tennis, our boys performed very good and defeated IIT Patna for first time in last three years. Athletics team also put up their best effort and went on to qualify

the heat level competitions. In discuss throw 'Lokesh Kumar Xess' ranked 7th in the final round of the competition with a throw of 27.12 m. The exhibition of sportsmanship by the Basketball, Volleyball and football teams were also laudable. The meet showed high level of competition by the IITians, and fostered the spirit of brotherhood, and sportsmanship. The closing ceremony was on the 19 December 2011 and IIT Madras and IIT Roorkee were declared winners of the men and women general championship respectively.



Scribbles

FIRST DATE: A Travelogue

Pramit Sarkar

(III Year, School of Infrastructure)

Boredom was at its height; life seemed to be slipping out of hands. As the enthusiasm was draining out, a holiday trip was more than necessary. The packing started, and with eager wait, the days crept away in a quick succession even though the torrential rains did pretty mess up the mood fortunately not for a long time though. It wasn't long before we boarded the train. As the wheels paced ahead, I pretty much lost myself amidst the greenery and the widespread blue. I realised the prevalence of the "para" culture a.k.a local colonies (which was an integral part of my childhood) still ruling over the colonies as we kept progressing towards the northern part of the state.

As we changed gears or rather the number of gears, i.e. to change the mode of transport, to reach our destination, the first thing I noticed was the Teesta. As we hopped from one mountain to another,

sweeping past the trusses connecting the mountains, the Teesta kept pace with us. Perhaps, it was the slashing waves that created the scenic difference from the mountains of Kashmir. Somehow, the bliss that one would instantly feel in the valleys of Kashmir was missing in this rugged valley; the creation lacked the precision, rather it seemed more out of the natural acts of wrath like earthquakes and river erosion. It was a marvel to see the civil engineers trying their best to create better transportation and energy facilities along the mountainous terrain.

When we finally made our way to our first destination- Pelling, altitude seemed to have taken its effect- the conifers, the mist, the wooden cottages indicated that we were thousands of feet from sea level. For the next 2 days, the trip was confined to in and around Pelling. Besides the profusion of the rhododendrons and the wild orchids, Pelling was a place that was almost always swathed by clouds accompanied by the timely (or rather untimely) rains. For history buffs there is a monastery- beautiful and serene. And interestingly, the path that leads to it is identical to the Great Wall of China. However, the striking aspect was the people and their holistic attitude which seems to be embedded in their veins. They have made up for the limited resources, by making efficient use of it. Brought up close to nature the residents of Pelling have happily balanced their sedate lifestyle with their Zen Estilos and Maruti Altos. Facilities might not have reached 6450 ft, but the football fever has certainly done so. After all, the country's present national football captain hails from this very state.

The first two days didn't provide too much to enjoy, aesthetically. Just when I had thought, there isn't much treat for the eyes, the road to the state capital, provided the beautiful view of the unmetalled road caught in the web of rivulets. The occasional fields of step-farming, bordered by the small nurseries were a real treat. It was shocking that, in spite of the presence of vegetation on both sides of the road, there were hardly any leaves on the track itself. As we reached Gangtok a few things were quite surprising. One was the uninterrupted mobile network; every time

it showed full. Second, was the absence of hospitals; perhaps Nature took care of its inhabitants.

Glitzy and glamorous Gangtok justified its being a capital in every sense of the word. As we walked into the main market place, the first thing that one noticed was the cleanliness. I don't know what contributed to the matter, but the clean streets had certainly inspired the people to keep it clean (way to go!!!!!!!). The government had once again made sure that the traffic and parking facilities were properly maintained, the legally banning of plastic bags and the presence of numerous dustbins ensured there wasn't a confusion regarding civic awareness. The state has also acknowledged the phenomenon of women empowerment and numerous shops on the main street, had lady owners, trading quite efficiently.

The smell of food, from the colourful restaurants, was palette teasing, and set the tune for my taste buds to have the flavours of Rajasthan! But the Rasoi (a restaurant in Sikkim!) was pretty much cooked up a.k.a booked/occupied; that meant that I had to wait for another day to enjoy the flavours of Rajasthan. The condition of the roads, the education facilities and the Resithang Sports Complex (perhaps the highest stadium in India) were quintessential of the fact that Sikkim boasts of a government for the people.

The next day, was already reserved for a thorough tour of the capital city. The lesson for the day was driving at neutral (and I thought I had completed my driving lessons!!!). As we made our way, through the streets, it was more than recognizable that people from other states formed a major part of the population of the city- a feature very much evident to every capital city of India. The Banjhakri Water Falls park, the Rumtek Monastery, Tibetology and the Orchid House made up for the rest of the sight-seeing. The natural scene of the waterfall was too awe-inspiring for words. The Ropeway, above the city, gave a beautiful view of the whole city at a glance. As evening set in it was time to indulge in a little shopping spree. After all what is travelling without a little spending. Shopping was an experience by itself in Sikkim. Interestingly, it was hard to

spot any such commodity, which would serve as a memento to carry back home. However, the one thing that did attract both the natives and the tourists were the big umbrellas, quite stylishly made to match the outfits. Even the children, were so attracted, that they would rush from the laps of their parents, only to check out the umbrellas. The sight of the kids bathing on the steps of the waterfall, threw up yet another example of staying close to nature and enjoying the fun.

My first date with Sikkim came to an end as we returned from the land-locked state the next day.

RISE OF A GREATER TSUNAMI

Rajdeep Konwar

(II Year, School of Mechanical Sciences)

At the crack of dawn
When the seagulls call
Even though darkness prevails around
Set out in boats the fishermen all
Who would dare wonder?
After seeing their valor
That a tsunami had turned
Their shades a bit paler...

They drift along the morning sea
To catch the leaping wealth of the tide
Because they have a family to feed
And small children to guide
These men of sea do not care
What's in their fate?
Keep on striving throughout difficulties
For none do they ever wait...

As they rowed down
The sea seemed to cry
But their oars dipped silently
Past their dead brothers by
Their hearts filled with pity
Their eternal souls broken down
But still they rowed further
Without a smile or a frown

Remember, a million is made
By joining one-one penny,
Similarly a tsunami is formed
By small-small droplets many.
If we come together to help them
To uphold the Peace Dove
Then, a greater tsunami will rise
A tsunami of love...



Team Rhythm:
Dr. Amrita Satapathy, Dr. Rajan Jha, Dr. S. N. Panigrahi
Mr. Pratik, Ms. Gitanjali & Ms. Nibedita

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